

### Office Action Summary

**Application No.**

10/691,320

**Applicant(s)**

ADGAONKAR ET AL.

**Examiner**

BRANDI P. PARKER

**Art Unit**

4137

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14, 43 and 44 is/are pending in the application.
- 4a) Of the above claim(s) 15-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14, 43 and 44 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 15-42 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☒ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: 4/22/2008
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**SUPPLEMENTAL DETAILED ACTION**

***Election/Restrictions***

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-14, 43 and 44, are drawn to a repair system, classified in class 705, subclass 8.
- II. Claims 15-28, are drawn to a method for planning repairs, classified in class 705, subclass 1.
- III. Claims 29-42, drawn to software for planning repairs, classified in class 717, subclass 102.

- 1. During a telephone conversation with Attorney Steven Laureanti on April 22, 2008 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-14, 43 and 44. Affirmation of this election must be made by applicant in replying to this Office action. Claims 15-42 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
- 2. When an oral election is made, the examiner will then proceed to incorporate into the Office action a formal restriction requirement including the date of the election, the attorney's or agent's name, and a complete record of the telephone interview, followed by a complete action on the elected invention as claimed, including linking or generic claims if present.
- 3. This Office Action is given Paper No. 20080422 for reference purposes only.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-14, 43 and 44 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. "Phenomena of nature, though just discovered, mental processes, abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work." Benson, 409 U.S. at 67, 175 USPQ at 675. However, the tangible requirement does require that the claim must recite more than a 35 U.S.C. 101 judicial exception, in that the process claim must set forth a practical application of that judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application."). "[A]n application of a law of nature or mathematical formula to a ... process may well be deserving of patent protection." Diehr, 450 U.S. at 187, 209 USPQ at 8 (emphasis added); see also *Coming*, 56 U.S. (15 How.) at 268, 14 L.Ed. 683 ("It is for the discovery or invention of some practical method or means of producing a beneficial result or effect, that a patent is granted . . ."). In other words, the opposite meaning of "tangible" is "abstract." Claims 1, 43 and 44 disclose the steps of "plan" and "re-plan" the move orders associated with the repair locations. Such steps constitute mental steps and are not directed towards statutory matter.

5. Claims 2-14 are dependent on claim 1 and are rejected under the same rationale.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10, 43 and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Regarding claims 1 and 11 the preamble describes a system for planning repairs in response to demand, however, the body of the does not disclose any corresponding structure for the system. Apparatus claims cover what a device is, not what a device does. *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Therefore, the scope of the claim is indefinite.

7. Claims 2-10 and 14, and 12-13 are dependent on rejected claims 1 and 11 respectively and are rejected for the aforementioned reasons.

8. Claims 43 and 44 recite substantially similar subject matter as the disclosure in claim 1 and are therefore rejected under the same rationale as above.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Huang et al (US 6151582) in view of Narimatsu et al (US 5826236).

9. With respect to **claims 1**, Huang teaches

- a. access a forecasted demand for a specified quantity of serviceable parts at a specified future time at a repair location c;
- b. plan a move order for moving the part between the repair location and the upstream repair location such that the part can be available for repair at the upstream repair location at the estimated earliest time, the move order having a start time and a delivery time (Figure 9, column/line 14/26-37, 17/9-11, 98/54-59, abstract);
- c. plan a repair order for the part at the upstream repair location at the estimated latest time, the repair order having a start time; in a third phase, for each of the one or more inspected unserviceable parts at the repair location that are not repairable at the repair location (Figure 9, column/line 14/26-37, 17/9-11);
- d. re-plan the move order by modifying the delivery time of the move order according to the start time of the repair order and modifying the start time of the move order according to the modified delivery time of the move order; the start time of the re-planned move order being an estimated latest time at which the

part can be moved from the repair location to the upstream repair location for repair in order to help satisfy the forecasted demand at the repair location (column/line 16/4-16, 17/9-21, Figure 9).

Huang does not teach the estimation of the earliest and latest time to begin repairs. However, Narimatsu teaches the method:

- e. estimate the earliest time at which an operation can begin for a part at an upstream location (column/line 16/49-52); and
- f. estimate a latest time at which an operation can begin with respect to the part at the upstream location in order to help satisfy the forecasted demand at the location (column/line 16-49-52).

It would have been obvious to one having ordinary skill in the art to modify the teaching of Huang with time estimation technique for an operation in Narimatsu because time estimation is necessary for the improvement of scheduling and allocation of resources in a supply chain. Furthermore, when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *KSR v. Teleflex*, 82 USPQ2d at 1395. The repair supply chain provided in Huang offers a clear parallelism with manufacturing supply chain systems (column/line 14/51-15/10). A predictable result of Huang would be to apply its system to upstream repair locations.

10. As to **claim 2**, Huang teaches:

- g. the earliest time estimated in the first phase takes into account any move lead time required for a part from the one location to the another location (column/line 33/42-45);
  - h. the latest time estimated in the second phase takes into account any lead time required for repairing the part at the upstream repair location and any move lead time required for moving the part back from the upstream repair location to the repair location (column/line 33/42-45); and
  - i. the start time of the re-planned move order is an estimated latest time taking into account any move lead time required for moving the part from the repair location to the upstream repair location, any repair lead time required for repairing the part at the upstream repair location, and any move lead time required for moving the part back from the upstream repair location to the repair location (column/line 33/42-45).
11. Regarding **claim 3**, Huang and Narimatsu teaches the lead time comprising one or more full days. It is old and well known in the art to track time and dates for repair completion to be tracked in increments of a day.
12. With respect to **claim 4**, Huang teaches wherein the move order specifies a Bill of Materials (BOM) and the move lead time associated with the move order comprises one or more full days (column/line 31/41-55, 92/57-67). Although Huang teaches a bill of materials instead of a bill distribution, "express suggestion to substitute one equivalent technique for another need not be present to render such substitution

obvious-In re Fout, 213 USPQ 532 (CCPA 1982), In re Siebentritt, 152 USPQ 618 (CCPA 1967). Therefore, it would have been obvious to one having ordinary skill in the art to substitute a Bill of Materials for a Bill of Distribution (BOD) in the present system.

13. As to **claim 5**, Huang teaches wherein the repair order and associated re-planned move order are planned on a just-in-time basis (column/line 98/19-22, 50-52).

14. With respect to **claim 6**, Huang teaches wherein the repair order and associated re-planned move order are planned on an on-demand basis, the forecasted demand acting as a demand for generating the repair order and the repair order acting as a demand for generating the associated re-planned move order (column/line 98/35-38).

15. Regarding **claim 7**, Huang teaches wherein a part is available to help satisfy the forecasted demand if the part can be at the repair location in a serviceable state at the specified time of the forecasted demand or earlier (column/line 41/26-29).

16. As to **claim 8**, Huang teaches the system of claim 1, wherein the one or more components are further collectively operable to automatically approve planned repair orders and move orders satisfying one or more predefined constraints (column/line 14/53-57).

18. With respect to **claim 9**, Huang teaches wherein the first, second, and third phases are performed for each of a plurality of times within a planning horizon for each of the one or more inspected unserviceable parts at the repair location that are not repairable at the repair location (column/line 71/50-56, 72/1-20).

19. Regarding **claim 10**, Huang teaches the performance of the first, second and third phases. Specifying that the disclosed method is to be performed for each



unserviceable part at the repair location is not distinguishable from what is disclosed in claim 1. Therefore, claim 10 is rejected according the rationale stated above.

20. As to **claims 11-13**, Huang in view of Narimatsu teach the limitations in claims 11-13 as described in claims 1-10 above. According to *In re Harza*, mere duplication of parts has no patentable significance unless new and unexpected results are produced. 214 USPQ 378 (CCPA 1960). Therefore, it would have been obvious to one having ordinary skill in the art to repeat the process disclosed in claims 1-10 for additional repair orders in a enterprise resource planning system, and claims 11-13 are rejected

21. With respect to **claim 14**, Huang teaches wherein the system comprises a replenishment planning engine of a service parts planning system (column/line 98/34-49).

22. Regarding **claim 43**, Huang teaches:

- j. access a forecasted demand for a specified quantity of serviceable parts at a specified future time at a repair location (column/line 19/32-58);
- k. taking into account any move lead time required for moving the part from the repair location to the upstream repair location and any inspection lead time required for inspecting the part at the upstream repair location (Huang: column/line 33/42-45);
- l. plan a move order for moving the part between the repair location and the upstream repair location such that the part can be available for repair at the upstream repair location at the estimated earliest time, the move order having a

start time and a delivery time (Figure 9, column/line 14/26-37, 17/9-11, 98/54-59, abstract);

m. taking into account any repair lead time required for repairing the part at the upstream repair location and any move lead time required for moving the part back from the upstream repair location to the repair location (Huang: column/line 33/42-45);

n. plan a repair order for the part at the upstream repair location at the estimated latest time on a just-in-time basis, the repair order having a start time, the forecasted demand acting as a demand for generating the repair order (Figure 9, column/line 14/26-37, 17/9-11, 98/19-22, 50-52);

o. re-plan the move order on a just-in-time basis by modifying the delivery time of the move order according to the start time of the repair order and modifying the start time of the move order according to the modified delivery time of the move order, the repair order acting as a demand for generating the associated re-planned move order (column/line 16/4-16, 17/9-21, 98/19-22, 50-52, Figure 9);

p. the start time of the re-planned move order being an estimated latest time at which the part can be moved from the repair location to the upstream repair location for repair in order to help satisfy the forecasted demand at the repair location, taking into account any move lead time required for moving the part from the repair location to the upstream repair location, any inspection lead time required for inspecting the part at the upstream repair location, any repair lead

time required for repairing the part at the upstream repair location, and any move lead time required for moving the part back from the upstream repair location to the repair location (column/line 33/42-45). and

q. the first, second, and third phases being performed for each of a plurality of times within a planning horizon for each of the one or more inspected unserviceable parts at the repair location that are not repairable at the repair location (column/line 71/50-56, 72/1-20).

Huang does not teach the estimation of the earliest and latest time to begin repairs. However, Narimatsu teaches the method that:

- r. estimate the earliest time at which an operation can begin for a part at an upstream location (column/line 16/49-52); and
- s. estimate a latest time at which an operation can begin with respect to the part at the upstream location in order to help satisfy the forecasted demand at the location (column/line 16-49-52).

It would have been obvious to one having ordinary skill in the art to modify the teaching of Huang with time estimation technique for an operation in Narimatsu because time estimation is necessary for the improvement of scheduling and allocation of resources in a supply chain.

23. As to **Claim 44**, Huang teaches:

- t. access a forecasted demand for a specified quantity of serviceable parts at a specified future time at the downstream repair location (column/line 19/32-58);
- u. plan a plurality of move orders for moving the part between the downstream repair location and the final upstream repair location such that the part can be available for repair at the final upstream repair location at the estimated earliest time for the final upstream repair location, each move order having a start time and a delivery time (Figure 9, column/line 14/26-37, 17/9-11, 98/54-59, abstract);
- v. plan a repair order for the part at the final upstream repair location at the estimated latest time for the final upstream repair location, the repair order having a start time (Figure 9, column/line 14/26-37, 17/9-11, 98/19-22, 50-52);
- w. re-plan the move orders by modifying the delivery time of a most upstream move order according to the start time of the repair order, modifying the start time of the most upstream move order according to the modified delivery time of the most upstream move order, modifying the delivery time of a next most upstream move order according to the start time of the most upstream move order, modifying the start time of the next most upstream move order according to the modified delivery time of the next most upstream move order, and continuing in this manner until the start time of a most downstream move order has been modified (column/line 16/4-16, 17/9-21, 98/19-22, 50-52, Figure 9);

x. the start times of the re-planned move orders being estimated latest times at which the part can be moved between repair locations for repair at the final upstream repair location in order to help satisfy the forecasted demand at the downstream repair location (column/line 33/42-45).

Huang does not teach the estimation of the earliest and latest time to begin repairs. However, Narimatsu teaches the method that:

y. estimate the earliest time at which an operation can begin for a part at an upstream location (column/line 16/49-52); and

z. estimate a latest time at which an operation can begin with respect to the part at the upstream location in order to help satisfy the forecasted demand at the location (column/line 16-49-52).

It would have been obvious to one having ordinary skill in the art to modify the teaching of Huang with time estimation technique for an operation in Narimatsu because time estimation is necessary for the improvement of scheduling and allocation of resources in a supply chain.

### ***Conclusion***

24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Constanza (US 6594535), Home (US 7058587) and King et al (2003/0110104).

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDI P. PARKER whose telephone number is (571) 272-9796. The examiner can normally be reached on Mon-Thurs. 8-4pm.

26. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Calvin L. Hewitt II can be reached on (571) 272-6709. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

27. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. P. P./  
Examiner, Art Unit 4137

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